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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/800,366
Filing Date: March 06, 2001
Appellant(s): WOOD, ROLAND A.

Bradley A. Forrest
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9 February 2006 appealing from the Office action mailed 31 December 2003.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,129,595	THIEDE et al	7-1992
5,258,619	DUVALL, III	11-1993
5,420,419	WOOD	5-1995

5,675,149 WOOD et al. 10-1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Issue 1: *Claims 1, 2, 7, 9-17, 20, and 22-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Wood et al. (US 5,675,149) and incorporated by reference US Patent 5,420,419 (Wood).*

It should be noted that frame time is the time in which a microbolometer produces a complete picture or image of an object being viewed (see lines 6 and 7 on pg. 2 of the specification).

In regard to claim **14**, Wood *et al.* disclose an infrared radiation detector apparatus, comprising:

(a) microbolometers in an array (column 5, line 65 to column 6, line 1);

(b) a timing circuit coupled to the array to apply two or more bias pulses (*i.e.*, each bias pulse results in a single measurement; US 5,420,419 column 6, lines 18-34 and Fig. 6) substantially sequentially to each microbolometer in the array during a frame (*i.e.*, exposure) time (*i.e.*, the time for producing a complete image from multiple measurements and averaging of sensor signals; column 5, lines 47-53);

(c) a measuring circuit coupled to the array to measure two or more resulting signals associated with each of the applied two or more bias pulses (*i.e.*, resulting in two or more measurements; column 5, lines 47-53) during the frame (*i.e.*, exposure) time;

(d) a computing circuit coupled to the measuring circuit to compute an average signal value (*i.e.*, averaging of sensor signals; column 5, lines 47-53) for each microbolometer in the array from the measured two or more resulting signals during the frame (*i.e.*, exposure) time; and

(e) an output circuit coupled to the computing circuit to produce an output signal based on the computed average value for each microbolometer in the array during the frame (*i.e.*, exposure) time is inherent in displaying an image corresponding to the output signals.

In regard to claim **1**, the method steps are implicit for the apparatus of Wood *et al.* since the structure is the same as the appellant's apparatus of claim 14.

In regard to claim **2** which is dependent on claim 1, Wood *et al.* also disclose (column 1, lines 55-58) recording and displaying IR images. Inherent in the formation of images is repeating the applying, measuring, computing, and producing steps to compute output signals during each frame time in order to form an IR image.

In regard to claim **7** (which is dependent on claim 1) and claim **20** (which is dependent on claim 14), Wood *et al.* also disclose (US 5,420,419 Fig. 6 and column 6, lines 18-34) that the bias pulses are substantially equal in magnitude.

In regard to claim **9** (which is dependent on claim 1) and claim **22** (which is dependent on claim 14), Wood *et al.* also disclose (US 5,420,419 Fig. 6 and column 2, lines 17-20) that the two or more bias pulses comprise two or more voltage bias pulses.

In regard to claim **10** (which is dependent on claim 1) and claim **23** (which is dependent on claim 22), Wood *et al.* also disclose (US 5,420,419 column 7, lines 26-28) that the two or more resulting signals comprise two or more current signals.

In regard to claim **11** (which is dependent on claim 1) and claim **24** (which is dependent on claim 14), Wood *et al.* also disclose (column 5, lines 47-53) that multiple measurements and averaging of sensor signals is equivalent to long exposures. Inherent in an average is at least two sensor signals each associated with an applied bias pulses and thus there are in the range of about 2 to 100 bias pulses dependent on the length of the exposure.

In regard to claim **12** (which is dependent on claim 1) and claim **25** (which is dependent on claim 24), Wood *et al.* also disclose (US 5,420,419 Fig. 6 and column 6, lines 18-34) that the two or more bias pulses have time duration in the range of about 0.1 to 20 microseconds (*e.g.*, 5-6 μs).

In regard to claim **13** (which is dependent on claim 1) and claim **26** (which is dependent on claim 14), Wood *et al.* also disclose (column 5, lines 47-53) that multiple measurements and averaging of sensor signals is equivalent to long exposures. The exposure (*i.e.*, frame) time is inherently the time it takes for the array to produce a complete image of an object being viewed by the array.

In regard to claim **15** which is dependent on claim 14, Wood *et al.* also disclose (column 2, lines 57-59) that the output circuit further comprises an integrator (integrating preamplifiers 26) and an A/D converter (32) for converting the output signal to a digital signal value for each microbolometer in the array.

In regard to claim **16** which is dependent on claim 15, Wood *et al.* also disclose (column 4, lines 5-24) a digital image processor (36), coupled to the output circuit to receive the digital signal value associated with each microbolometer in the array and correct the received digital signal value for image defects.

In regard to claim **17** which is dependent on claim 16, Wood *et al.* also disclose (column 4, lines 5-24) that the digital image processor (36) further comprises a correction circuit, to apply a corrective electrical signal based on a correction value to the output signal to correct for resistance non-uniformity in each microbolometer to obtain a substantially uniform output signal value.

Issue 2: *Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. (US 5,675,149) and incorporated by reference US Patent 5,420,419 (Wood) in view of Appellant's Admitted Prior Art.*

In regard to claim **3** which is dependent on claim 2, the method of Wood *et al.* lacks applying a corrective electrical signal to the output signal to correct for resistance non-uniformity between the one or more microbolometers of the array to obtain a substantially uniform output signal value. Appellant admits (first paragraph on pg. 6) it is known in the art (such as US Patent 4,752,694) to apply a corrective electrical signal to the output signal to correct for resistance non-uniformity between the one or more microbolometers of the array (*i.e.*, "coarse non-uniformity correction") to obtain a substantially uniform output signal value. Therefore it would have been obvious to one having ordinary skill in the art to apply a corrective electrical signal in the method of Wood *et al.*, in order to obtain a substantially uniform output signal value.

In regard to claim **4** which is dependent on claim 3, Wood *et al.* also disclose (column 2, lines 57-59) an integrator (integrating preamplifiers 26) and an A/D converter (32) to converting the substantially uniform output signal associated with each microbolometer to a digital signal value.

In regard to claim **5** which is dependent on claim 4, Wood *et al.* also disclose (column 4, lines 5-24) passing the digital signal values associated with each microbolometer in the array through a digital image processor to correct for image defects.

Issue 3: *Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. (US 5,675,149) and incorporated by reference US Patent 5,420,419 (Wood) in view of Appellant's Admitted Prior Art as applied to claim 5 above, and further in view of Thiede et al. (US 5,129,595).*

In regard to claim **6** which is dependent on claim 5, the modified method of Wood *et al.* lacks that the image defects comprise fine offsets, gain non-uniformity, and dead pixels. Image defects such as fine offsets, gain non-uniformity, and dead pixels are well known in the art. For example, Thiede *et al.* teach (column 7, lines 45-66) the correction of gain non-uniformity and dead pixels in order to fully compensate for array non-uniformity. Therefore it would have been obvious to one having ordinary skill in the art to correct for gain non-uniformity and dead pixels in the modified method of Wood *et al.*, in order to fully compensate for array non-uniformity.

Issue 4: *Claims 8, 21, 27, 29, and 33-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. (US 5,675,149) and incorporated by reference US Patent 5,420,419 (Wood) in view of Duvall, III (US 5,258,619).*

In regard to claim **8** (which is dependent on claim 1) and claim **21** (which is dependent on claim 20), the apparatus and method of Wood *et al.* lacks that the bias pulses are substantially equally spaced in time. Duvall, III teaches (column 6, lines 43-53) that a swept bias technique includes adjusting the waveform parameters of rise-time, fall-time, peak to peak values, time between pulses, pulse slope, pulse width, and pulse amplitude which best meets a given detector and design situation in order to minimize unwanted detector heating. Therefore it would have been obvious to one having ordinary skill in the art to adjust the bias pulses waveform parameters (*e.g.*, pulses are substantially equally spaced in time) in the apparatus and method of Wood *et al.*, in order to meet a given detector and design situation so as to minimize unwanted detector heating as taught by Duvall, III.

In regard to claim **27**, Wood *et al.* is applied as in claim 14 above. The apparatus of Wood *et al.* lacks that the resulting temperature in each of the microbolometers in the array is substantially uniform. Duvall, III teaches (column 6, lines 43-53) that a swept bias technique includes adjusting the waveform parameters of rise-time, fall-time, peak to peak values, time between pulses, pulse slope, pulse width, and pulse amplitude which best meets a given detector and design situation in order to minimize unwanted detector heating. Minimizing detector heating due to bias results in minimal change in detector temperature and thus the detector is at the substantially uniform initial

temperature. Therefore it would have been obvious to one having ordinary skill in the art to adjust the bias pulses waveform parameters (*e.g.*, pulses are substantially equally spaced in time) in the infrared radiation detector apparatus and method of Wood *et al.*, in order to meet a given detector and design situation so as to minimize unwanted detector heating resulting substantially uniform temperature as taught by Duvall, III.

In regard to claim **29** which is dependent on claim 27, Wood *et al.* is applied as in claim 15 above.

In regard to claim **33** which is dependent on claim 27, Wood *et al.* is applied as in claim 20 above.

In regard to claim **34** which is dependent on claim 27, Wood *et al.* in view of Duvall, III is applied as in claim 21 above.

In regard to claims **35** and **36** which are dependent on claim 27, Wood *et al.* is applied as in claims 22 and 23 above.

In regard to claims **37** and **38** which are dependent on claim 27, Wood *et al.* is applied as in claims 24 and 25 above.

In regard to claim **39** which is dependent on claim 27, Wood *et al.* is applied as in claim 26 above.

Issue 5: *Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. (US 5,675,149) and incorporated by reference US Patent 5,420,419 (Wood) in view of Thiede et al. (US 5,129,595).*

In regard to claim **18** which is dependent on claim 17, Thiede *et al.* is applied as in claim 6 above.

In regard to claim **19** which is dependent on claim 18, Wood *et al.* also disclose (column 4, lines 5-24) that the digital image processor (36) further comprises digital memories to store the correction values for each microbolometer in the array.

Issue 6: *Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. (US 5,675,149) and incorporated by reference US Patent 5,420,419 (Wood) in view of Duvall, III (US 5,258,619) as applied to claim 29 above, and further in view of Thiede et al. (US 5,129,595).*

In regard to claim **30** which is dependent on claim 29, Thiede *et al.* is applied as in claim 6 above.

In regard to claim **31** which is dependent on claim 30, Wood *et al.* is applied as in claims 16 and 17 above.

In regard to claim **32** which is dependent on claim 31, Wood *et al.* is applied as in claim 19 above.

(10) Response to Argument

Issue 1 (arguments on pg. 18-22 of appeal brief filed 9 February 2006):

In response to appellant's argument that the references fail to show certain features of appellant's invention, it is noted that the features upon which appellant relies (*i.e.*, a particular frame time such as 1/30th of a second) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Appellant also argues that each scan in Wood *et al.* is akin to a frame time as that term is used in the present application. Examiner

respectfully disagrees. Claim 13 (see also claims 26 and 39) recites the limitation "wherein the frame time is the time it takes for the array to produce a complete image of an object being viewed by the array". It is important to recognize that the claims do not even require obtaining a second complete image (*e.g.*, a second "video" image) of an object being viewed by the array. Thus the scope of the claims encompass any amount of time it takes for a camera system to produce a single complete image of an object.

Appellant argues that Wood *et al.* and incorporated by reference Wood do not teach applying two or more bias pulses substantially sequentially to each microbolometer in the array during a frame time. Examiner respectfully disagrees. Wood *et al.* state (column 5, lines 47-53) that "If desired, slower slide velocities, or multiple scans of any desired region of the scene, can be employed to allow sensitivity improvement by multiple measurement and averaging of sensor signals: in this case, a stable platform for example, a tripod mounting of the camera may be required, analogous to long exposures of visible photographic still frame cameras". The key phrase is "multiple measurement and averaging of sensor signals". Thus, Wood *et al.* disclose obtaining sensor signal averages of multiple measurements so as to produce a complete picture or image within the exposure (*i.e.*, frame) time.

It should be noted that this is different than averaging of complete images. Averaging of complete images is described by Wood *et al.* at lines 11-16 of column 5 wherein it is stated that "If desired, successive images may also be averaged, to produce an image of the scene with enhanced sensitivity, allowing the exact position of any moving or temperature-changing object to be readily determined by reference to the

stationary objects in the scene". Thus it is clear that obtaining sensor signal averages of multiple measurements so as to produce a complete image within the exposure (*i.e.*, frame) time is different than averaging of complete images.

Further, incorporated by reference Wood states (column 2, lines 51-53) that "The passive elements of the focal plane array in the package 10 need to be polled or interrogated by providing a voltage or a current" and (column 6, lines 18-20) that "In FIG. 6 the voltage level indicated by line 5 is that of the pulse biased current supplied to a single microbolometer in a focal plane array over time". Thus, incorporated by reference Wood disclose that a single measurement is obtained by applying a single pulse biased current to a single microbolometer in a focal plane array. Therefore, the multiple measurements of Wood *et al.* necessarily imply applying a sequence of pulse biased current to a single microbolometer in a focal plane array. That is, "multiple measurement and averaging of sensor signals" necessarily implies applying two or more bias pulses substantially sequentially to each microbolometers in the array so as to obtain two or more measurements (corresponding to the two or more bias pulses) from each microbolometers in the array for averaging of the two or more measurements to obtain a complete image.

Therefore, Wood *et al.* (and incorporated by reference Wood) expressly or inherently teach all elements as arranged in the instant claims.

Appellant also indicates uncertainty in the interpretation of "time is inherent in displaying an image corresponding to the output signals". Appellant should note that the phrase in context is "an output circuit coupled to the computing circuit to produce an

output signal based on the computed average value for each microbolometer in the array during the frame (*i.e.*, exposure) time is inherent in displaying an image corresponding to the output signals". Thus it is an output circuit (for producing an output signal) which is inherent in displaying an image (corresponding to the output signals). That is, the display (for displaying an image) necessarily requires output signals from an output circuit.

Claim 1 (arguments on pg. 22-23 of appeal brief filed 9 February 2006):

Appellant argues that claim 1 is allowable for the reasons set forth above. Examiner respectfully disagrees for the reasons discussed above.

Table 1

	claim 14	claim 1
b	a timing circuit coupled to the array to apply two or more bias pulses substantially sequentially to each microbolometer in the array during a frame time	applying two or more bias pulses substantially sequentially during a frame time to each microbolometer in the array
c	a measuring circuit coupled to the array to measure two or more resulting signals associated with each of the applied two or more bias pulses during the frame time	measuring two or more resulting signals corresponding to the two or more bias pulses
d	a computing circuit coupled to the measuring circuit to compute an average signal value for each microbolometer in the array from the measured two or more resulting signals during the frame time	computing an average signal value from the two or more resulting signals corresponding to each microbolometer in the array during the frame time
e	an output circuit coupled to the computing circuit to produce an output signal based on the computed average value for each microbolometer in the array during the frame time	producing an output signal based on the computed average signal value for each microbolometer in the array during the frame time

Appellant also indicates uncertainty in the understanding of "the method steps are implicit for the apparatus of Wood *et al.* since the structure is the same as the

appellant's apparatus of claim 14". Appellant should note that this phrase indicates that the cited prior art is applied in the same way as in claim 14.

From Table 1, it is clear that all the elements of method claim 1 are implicit for apparatus claim 14. Therefore in regard to claim 1, the method steps are implicit for the apparatus of Wood *et al.* since the structure is the same as the appellant's apparatus of claim 14.

Claim 2 (arguments on pg. 23 of appeal brief filed 9 February 2006):

Appellant argues that claim 2 is allowable for all the reasons argued with respect to claim 1. Examiner respectfully disagrees for the reasons discussed above.

In response to appellant's argument that the references fail to show certain features of appellant's invention, it is noted that the features upon which appellant relies (*i.e.*, video images) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim 7 (arguments on pg. 23 of appeal brief filed 9 February 2006):

Appellant argues that claim 7 is allowable for all the reasons argued with respect to claim 1. Examiner respectfully disagrees for the reasons discussed above.

Claim 9 (arguments on pg. 23-24 of appeal brief filed 9 February 2006):

Appellant argues that claim 9 is allowable for all the reasons argued with respect to claim 1. Examiner respectfully disagrees for the reasons discussed above.

Claim 10 (arguments on pg. 24 of appeal brief filed 9 February 2006):

Appellant argues that claim 10 is allowable for all the reasons argued with respect to claim 1. Examiner respectfully disagrees for the reasons discussed above.

Claim 11 (arguments on pg. 24 of appeal brief filed 9 February 2006):

Appellant argues that claim 11 is allowable for all the reasons argued with respect to claim 1. Examiner respectfully disagrees for the reasons discussed above.

Claim 12 (arguments on pg. 24 of appeal brief filed 9 February 2006):

Appellant argues that claim 12 is allowable for all the reasons argued with respect to claim 1. Examiner respectfully disagrees for the reasons discussed above.

Claim 13 (arguments on pg. 24-25 of appeal brief filed 9 February 2006):

Appellant argues that claim 13 is allowable for all the reasons argued with respect to claim 1. Examiner respectfully disagrees for the reasons discussed above.

Claim 14 (arguments on pg. 25 of appeal brief filed 9 February 2006):

Appellant argues that claim 14 is allowable for the reasons set forth above. Examiner respectfully disagrees for the reasons discussed above.

Claim 15 (arguments on pg. 25 of appeal brief filed 9 February 2006):

Appellant argues that claim 15 is allowable for all the reasons argued with respect to claim 14. Examiner respectfully disagrees for the reasons discussed above.

Claim 16 (arguments on pg. 25-26 of appeal brief filed 9 February 2006):

Appellant argues that claim 16 is allowable for all the reasons argued with respect to claim 14. Examiner respectfully disagrees for the reasons discussed above.

Claim 17 (arguments on pg. 26 of appeal brief filed 9 February 2006):

Appellant argues that claim 17 is allowable for all the reasons argued with respect to claim 14. Examiner respectfully disagrees for the reasons discussed above.

Claim 20 (arguments on pg. 26 of appeal brief filed 9 February 2006):

Appellant argues that claim 20 is allowable for all the reasons argued with respect to claim 14. Examiner respectfully disagrees for the reasons discussed above.

Claim 22 (arguments on pg. 26 of appeal brief filed 9 February 2006):

Appellant argues that claim 22 is allowable for all the reasons argued with respect to claim 14. Examiner respectfully disagrees for the reasons discussed above.

Claim 23 (arguments on pg. 27 of appeal brief filed 9 February 2006):

Appellant argues that claim 23 is allowable for all the reasons argued with respect to claim 14. Examiner respectfully disagrees for the reasons discussed above.

Claim 24 (arguments on pg. 27 of appeal brief filed 9 February 2006):

Appellant argues that claim 24 is allowable for all the reasons argued with respect to claim 14. Examiner respectfully disagrees for the reasons discussed above.

Claim 25 (arguments on pg. 27 of appeal brief filed 9 February 2006):

Appellant argues that claim 25 is allowable for all the reasons argued with respect to claim 14. Examiner respectfully disagrees for the reasons discussed above.

Claim 26 (arguments on pg. 27 of appeal brief filed 9 February 2006):

Appellant argues that claim 26 is allowable for all the reasons argued with respect to claim 14. Examiner respectfully disagrees for the reasons discussed above.

Issue 2:

Claim 3 (arguments on pg. 28 of appeal brief filed 9 February 2006):

Appellant argues that claim 3 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Claim 4 (arguments on pg. 28-29 of appeal brief filed 9 February 2006):

Appellant argues that claim 4 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Claim 5 (arguments on pg. 29 of appeal brief filed 9 February 2006):

Appellant argues that claim 5 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Issue 3 (arguments on pg. 30 of appeal brief filed 9 February 2006):

Appellant argues that claim 6 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Issue 4:

Claim 8 (arguments on pg. 31 of appeal brief filed 9 February 2006):

Appellant argues that claim 8 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Claim 21 (arguments on pg. 32 of appeal brief filed 9 February 2006):

Appellant argues that claim 21 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Claim 27 (arguments on pg. 32 of appeal brief filed 9 February 2006):

Appellant argues that there is no suggestion to use such techniques within a given frame time as claimed in claim 27. In response to appellant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Duvall, III teaches (column 6, lines 43-53) that a swept bias technique includes adjusting the waveform parameters of rise-time, fall-time, peak to

peak values, time between pulses, pulse slope, pulse width, and pulse amplitude which best meets a given detector and design situation, in order to minimize unwanted detector heating. Minimizing detector heating due to bias results in minimal change in detector temperature and thus the detector is at the substantially uniform initial temperature. Therefore it would have been obvious to one having ordinary skill in the art to adjust the bias pulses waveform parameters (*e.g.*, pulses are substantially equally spaced in time) in the infrared radiation detector apparatus and method of Wood et al., in order to meet a given detector and design situation so as to minimize unwanted detector heating resulting substantially uniform temperature as taught by Duvall, III.

Claim 29 (arguments on pg. 32-33 of appeal brief filed 9 February 2006):

Appellant argues that claim 29 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Claim 33 (arguments on pg. 33 of appeal brief filed 9 February 2006):

Appellant argues that claim 33 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Claim 34 (arguments on pg. 33-34 of appeal brief filed 9 February 2006):

Appellant argues that claim 34 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time

is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Claim 35 (arguments on pg. 34 of appeal brief filed 9 February 2006):

Appellant argues that claim 35 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Claim 36 (arguments on pg. 34 of appeal brief filed 9 February 2006):

Appellant argues that claim 36 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Claim 37 (arguments on pg. 35 of appeal brief filed 9 February 2006):

Appellant argues that claim 37 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Claim 38 (arguments on pg. 35 of appeal brief filed 9 February 2006):

Appellant argues that claim 38 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Claim 39 (arguments on pg. 35-36 of appeal brief filed 9 February 2006):

Appellant argues that claim 39 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Issue 5:

Claim 18 (arguments on pg. 37 of appeal brief filed 9 February 2006):

Appellant argues that claim 18 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Claim 19 (arguments on pg. 37 of appeal brief filed 9 February 2006):

Appellant argues that claim 19 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Issue 6:

Claim 30 (arguments on pg. 38 of appeal brief filed 9 February 2006):

Appellant argues that claim 30 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Claim 31 (arguments on pg. 38-39 of appeal brief filed 9 February 2006):

Appellant argues that claim 31 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

Claim 32 (arguments on pg. 39 of appeal brief filed 9 February 2006):

Appellant argues that claim 32 is allowable since application of two or more bias pulses substantially sequentially to each microbolometer in an array in each frame time is not disclosed by the cited references. Examiner respectfully disagrees for the reasons discussed above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

SL
8 March 2006

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